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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,122	10/31/2003	Ming-Chin Chang	TOP 340	8455

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EXAMINER	
NGUYEN, JENNIFER T	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/697,122	CHANG ET AL.	
	Examiner	Art Unit	
	Jennifer T. Nguyen	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14-20* is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to amendment filed on 11/06/06.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art figs. 1, 2, and supporting specification (hereinafter AAPA) in view of Grave (Patent No. US 6,144,359) and further in view of McCartney, jr. et al. (Patent No. US 5,831,693).

Regarding claims 1 and 9, AAPA teaches a transflective liquid crystal display device, comprising:

a display panel having a viewing area (fig. 1), wherein the viewing area comprises a transmissive region (224, fig. 2) and a reflective region (222, fig. 2);

a backlight device (290) disposed under the display panel, wherein the backlight device provides a backlight passing through the transmissive region (page 2, line 3-21);

AAPA differs from claims 1 and 9 in that it does not specifically teach "a power management controller ...the ambient light becomes greater...of the backlight passing through the transmissive region.".

Grave teaches a power management controller (140, fig. 1) connected with a backlight device (130), wherein the power management controller controls an intensity of the backlight (130) (col. 2, lines 30-43); and

at least one photodetector (150), wherein the photodetector detects an intensity of ambient light around the display panel (110), and then provides a corresponding signal to the power management controller to control the intensity of the backlight (col. 3, lines 12-26);

wherein, by the power management controller (140) based on the corresponding signal, the intensity of the backlight automatically becomes greater when the intensity of the ambient light becomes lower, and the intensity of the backlight automatically becomes lower when the intensity of the ambient light becomes greater (col. 3, line 48 to col. 4, line 12), maintaining a total amount of light at a desired level, said total amount consisting of a first part of ambient light reflected from the reflective region and a second part of the backlight passing through the transmissive region (col. 2, lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the power management controller as taught by Grave in the system of AAPA in order to reduce backlight energy consumption and obtain optimum display luminance when the ambient light of the environment changes.

The combination of AAPA and Grave differs from claims 1 and 9 in that it does not specifically teach the photodetector located on the display panel outside the viewing area.

McCartney, Jr. teaches photodetectors (12) located on the display panel outside the viewing area (fig. 2) (col. 3, lines 50-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the photodetectors

located on the display panel outside the viewing area as taught by McCartney, Jr. in the system of the combination of AAPA and Grave in order to detect the ambient light of the environment quickly and efficiently.

Regarding claims 2 and 10, AAPA further teaches a first substrate (260) located above the backlight device (290);

a pixel electrode (220) having a transparent portion (224) and an opaque portion (222) formed on the first substrate, wherein the transparent portion of the pixel electrode is in the transmissive region and the opaque portion of the pixel electrode is in the reflective region;

a second substrate (200) opposite the first substrate (160) ; and

a liquid crystal layer (230) interposed between the first and the second substrates (fig. 2, page 2, line 3-21).

Regarding claim 3, the combination of AAPA, Grave, and McCartney, Jr. teaches the backlight device comprises a cold cathode fluorescent tube (CCFL) or a light emitting diode (LED) (col. 3, lines 1-10 of Grave).

Regarding claim 4, the combination of AAPA, Grave, and McCartney, Jr. teaches the photodetector is a photosensitive resistor or a photodiode (col. 3, lines 55-60 of McCartney, Jr.).

Regarding claims 5 and 6, the combination of AAPA, Grave, and McCartney, Jr. teaches the first substrate and the second substrate are a glass substrates (col. 2, lines 55-57 of Grave).

Regarding claims 6 and 12, AAPA teaches the transparent portion of the pixel electrode is an ITO (indium tin oxide) layer or an IZO (indium zinc oxide) layer (page 2, line 29 to page 3, line 1).

Regarding claims 8 and 13, AAPA teaches the opaque portion of the pixel electrode is an aluminum layer or a silver layer (page 3, lines 1-2).

Regarding claim 11, AAPA teaches forming a thin film transistor array on the first substrate, wherein thin film transistors electrically connect the pixel electrode (page 2, lines 20-27).

4. Claims 14-20 are allowed.

Response to Arguments

5. Applicants' arguments filed 11/6/2006, have been fully considered but they are not persuasive because as follows:

In response to Applicants' argument stated "Grave, however, does not teach or suggest wherein, by the power management... the backlight passing through the transmissive region.". Examiner respectively disagrees. Grave teaches by the power management controller (140) based on the corresponding signal, the intensity of the backlight automatically becomes greater (output by backlight 130 is used to achieve the desired contrast) when the intensity of the ambient light becomes lower (i.e., night modes of operation), and the intensity of the backlight automatically becomes lower (backlight 130 produce substantially no luminance output) when the intensity of the ambient light becomes greater (i.e., day modes of operation) (col. 3, line 48 to col. 4, line 12), maintaining a total amount of light at a desired level, said total amount consisting of a first part of ambient light reflected from the reflective region and a second part of the backlight passing through the transmissive region (col. 2, lines 37-40).

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T. Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Nguyen
1/11/07

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TEP 2600